

AMENDMENTS TO THE CLAIMS

Claims 1-20 were elected through Applicant's Response to Restriction Requirement, filed December 13, 2004; Claims 21-34 have been withdrawn. Claims 35-40 are new.

1. (Currently amended) A queuing management system for managing a queue of waiting vessels or persons having a pass-through point comprising:

a camera system configured to generate one or more images of the queue and sequential images of the pass-through point; and

an image processing system configured to determine the density of edges in at least one of the images and to calculate information indicative of the anticipated delay in the queue based on the images and the density of edges.

2. (Currently amended) The queuing management system of claim 1 wherein the image processing system is configured to also calculate the rate at which vessels or persons pass through the pass-through point based on the images and the density of edges.

3. (Currently amended) The queuing management system of claim 2 wherein the image processing system is configured to also calculate the number of vessels or persons in the queue based on the images and the density of edges.

4. (Currently amended) The queuing management system of claim 3 wherein the image processing system is configured to calculate the number of vessels or person in the queue by determining the length of the queue based on the images and the density of edges and by dividing this length by a number representative of the anticipated average length of the portion of the queue occupied by each vessel or person.

5. (Currently amended) The queuing management system of claim 3 wherein the image processing system is configured to also calculate the delay in the queue by dividing the number of vessels or persons in the queue by the rate at which vessels or persons pass through the pass-through point.

6. (Currently amended) The queuing management system of claim 1 wherein the image processing system is configured to calculate information indicative of the anticipated delay of vehicles in the queue based on the images from the camera system and the density of edges.

7. (Currently amended) A method of managing a queue of waiting vessels ~~or persons~~ having a pass-through point comprising:

generating one or more images of the queue and sequential images of the pass-through point;

determining the density of edges in at least one of the images; and

calculating information indicative of the anticipated delay in the queue based on the images and the density of edges.

8. (Currently amended) A passageway management system for managing a passageway through which vessels ~~or persons~~ pass comprising:

a camera system configured to generate sequential images of the passageway; and

an image processing system configured to determine the density of edges in at least one of the images and to calculate information indicative of the rate at which the vessels or persons pass through the passageway based on the images from the camera system and the density of edges.

9. (Currently amended) The passageway management system of claim 8 wherein the image processing system is configured to also count the number of vessels ~~or persons~~ that pass through the passageway based on the images and the density of edges.

10. (Currently amended) The passageway management system of claim 9 wherein the image processing system is configured to calculate the information indicative of the rate by dividing the count of the number of vessels ~~or persons~~ that pass through the passageway over a period of time by the period of time.

11. (Currently amended) The passageway management system of claim 8 wherein the image processing system is configured to calculate information indicative of the rate at which vehicles pass through the passageway based on the images from the camera and the density of edges.

12. (Currently amended) A method of managing a passageway through which vessels pass comprising:

generating sequential images of the passageway;

determining the density of edges in at least one of the images; and

calculating information indicative of the rate at which the vessels or persons pass through the passageway based on the images from the camera system and the density of edges.

13. (Currently amended) A queuing management system for managing a queue of waiting vessels or persons having a pass-through point:

a camera system configured to generate one or more images of the queue; and

an image processing system configured to determine the density of edges in at least one of the images and to determine information indicative of the number of vessels or persons in the queue based on the image or images from the camera system and the density of edges.

14. (Currently amended) The queuing management system of claim 13 wherein the image processing system is configured to calculate the information indicative of the number of vessels or person in the queue by determining the length of the queue based on the image or images and the density of edges and by dividing this length by a number representative of the anticipated average length of the space in the queue occupied by each vessel or person.

15. (Original) The queuing management system of claim 14 wherein the image processing system is configured to determine the length of the queue by determining where in at least one of the images the density of edges falls below a threshold.

16. (Original) The queuing management system of claim 13 wherein the image processing system is configured to calculate information indicative of the number of vehicles in the queue based on the images from the camera system.

17. (Currently amended) A method for managing a queue of waiting vessels or persons having a pass-through point:

generating one or more images of the queue; and

determining information indicative of the number of vessels or persons in the queue based on the image or images.

18. (Currently amended) A passageway management system for managing a passageway through which vessels or persons pass comprising:

a camera system configured to generate sequential images of the passageway; and

an image processing system configured to count the number of vessels or persons that pass through the passageway based on the images.

19. (Original) The passageway management system of claim 18 wherein the image processing system is configured to calculate the number of vehicles that pass through the passageway based on the images from the camera.

20. (Currently amended) A method for managing a passageway through which vessels or persons pass comprising:

generating sequential images of the passageway; and

counting the number of vessels or persons that pass through the passageway based on the images.

21.-34. (Canceled)

35. (New) The queuing management system of claim 1 wherein the image processing system is also configured to detect the presence or absence of a color from the images of the pass-through point.

36. (New) The method of managing a queue of claim 7 further comprising detecting the presence or absence of a color from the images of the pass-through point.

37. (New) The passway management system of claim 8 wherein the image processing system is also configured to detect the presence or absence of a color from the images of the pass-through point.

38. (New) The method of managing a queue of claim 12 further comprising detecting the presence or absence of a color from the images of the pass-through point

39. (New) The passageway management system of claim 18 wherein the image processing system is also configured to detect the presence or absence of a color from the images of the passageway.

40. (New) The method of managing a passageway of claim 20 further comprising detecting the presence or absence of a color from the images of the passageway.